Genie Industries

Technical Publications

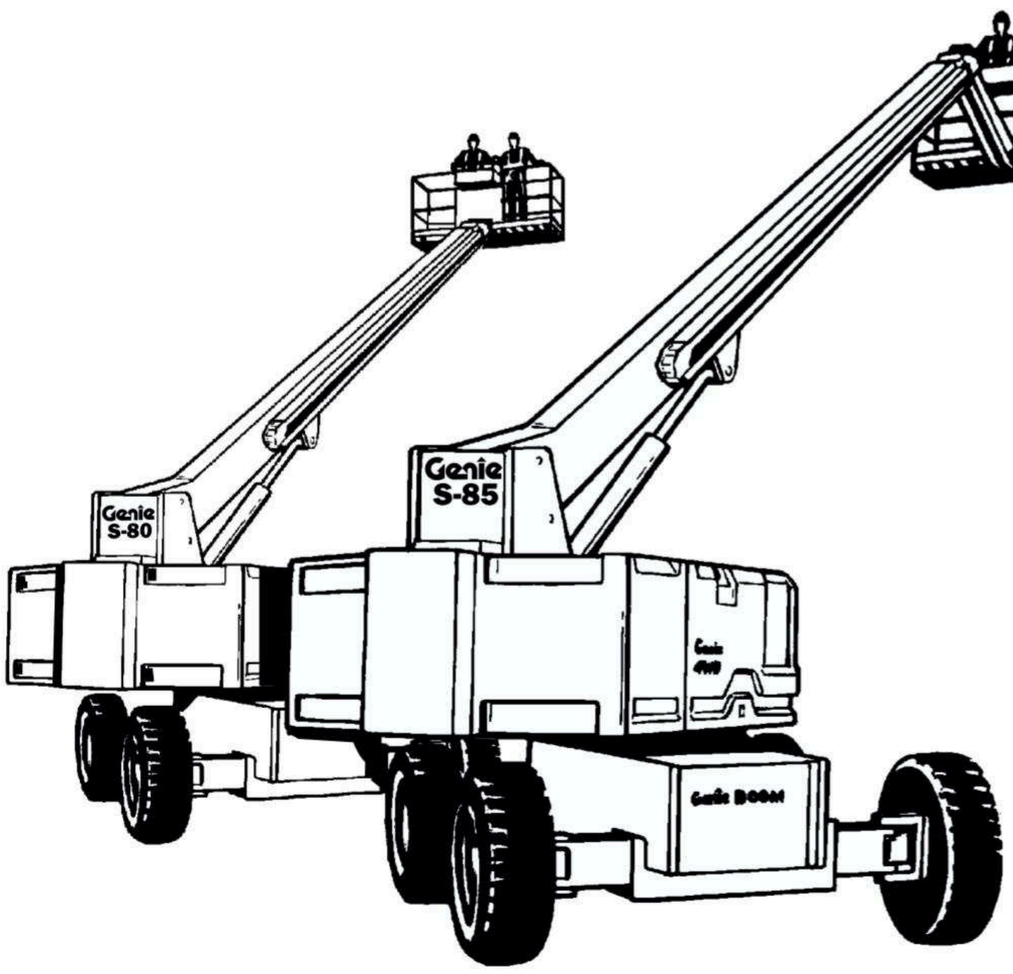
Genie®

A TEREX COMPANY

Genie® S-80

Genie® S-85

Service Manual



Second Edition, First Printing
Part No. 52270

MidWestTech | Terex Genie S-80, S-85 Telescopic Boom Lift Service Manual | Publication 52270

Order the manual at mid-west-tech.com >

Table of Contents

Introduction

Important Information ii

Section One **Safety Rules**

General Safety Rules iii

Section Two **Specifications**

Machine Specifications ..... 2 - 1
Performance Specifications ..... 2 - 2
Hydraulic Specifications ..... 2 - 3
Ford LRG 423 Engine Specifications ..... 2 - 4
Deutz F4L 1011F Engine Specifications ..... 2 - 6
Hydraulic Hose and Fitting Torque Specifications ..... 2 - 8
Bolt Torque Specifications ..... 2 - 9

Section Three **Scheduled Maintenance Inspections**

Introduction ..... 3 - 1
Table A ..... 3 - 2
Table B ..... 3 - 3
Table C ..... 3 - 5
Table D ..... 3 - 6
Maintenance Inspection Report ..... 3 - 7

Section Four **Scheduled Maintenance Procedures**

Introduction ..... 4 - 1
A-1 Inspect the Manuals ..... 4 - 2
A-2 Inspect the Decals and Placards ..... 4 - 2
A-3 Inspect for Damage, Loose or Missing Parts ..... 4 - 2
A-4 Check the Engine Oil Level ..... 4 - 3
A-5 Check the Engine Coolant Level - Gasoline/LPG Models ..... 4 - 3
A-6 Check for Fuel Leaks ..... 4 - 3
A-7 Check the Hydraulic Oil Level ..... 4 - 4
A-8 Check for Hydraulic Leaks ..... 4 - 4

MidWestTech | Terex Genie S-80, S-85 Telescopic Boom Lift Service Manual | Publication... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

Section Four **Scheduled Maintenance Procedures,** continued

A-9 Check the Tire Pressure ..... 4 - 5
A-10 Test the Extendable Axles ..... 4 - 5
A-11 Test the Platform and Ground Controls ..... 4 - 6
A-12 Test the Auxiliary Power Operation ..... 4 - 7
A-13 Test the Tilt Sensor ..... 4 - 7
A-14 Test the Limit Switches ..... 4 - 8
A-15 Replace the Engine Oil and Filter - Gasoline/LPG Models ..... 4 - 11
A-16 Drain the Fuel Filter/Water Separator - Deutz Diesel Models ..... 4 - 12
A-17 Replace the Engine Air Filter ..... 4 - 13
B-1 Check the Engine Belt ..... 4 - 14
B-2 Check the Radiator - Gasoline/LPG Models ..... 4 - 15
B-3 Check the Oil Cooler and Cooling Fins - Deutz Diesel Models ..... 4 - 15
B-4 Check the Exhaust System ..... 4 - 16
B-5 Check the Battery ..... 4 - 17
B-6 Check the Hydraulic Tank Filter Condition Indicator ..... 4 - 17
B-7 Inspect the Electrical Wiring ..... 4 - 18
B-8 Inspect the Tires and Wheels (including lug nut torque) ..... 4 - 18
B-9 Confirm the Proper Brake Configuration ..... 4 - 19
B-10 Check the Oil Level in the Torque Hubs ..... 4 - 19
B-11 Check and Adjust the Engine Idle Mixture - Gasoline/LPG Models ..... 4 - 20
B-12 Check and Adjust the Engine RPM ..... 4 - 20
B-13 Test the Key Switch ..... 4 - 22
B-14 Test the Emergency Stop Switches ..... 4 - 22
B-15 Test the Ground Control Override ..... 4 - 23
B-16 Test the Platform Self-leveling ..... 4 - 23
B-17 Test the Horn ..... 4 - 23
B-18 Test the Foot Switch ..... 4 - 23
B-19 Test the Engine Idle Select ..... 4 - 24
B-20 Test the Fuel Select Operation - Gasoline/LPG Models ..... 4 - 24
B-21 Test the Drive Enable System ..... 4 - 25
B-22 Test the Drive Brakes ..... 4 - 26
B-23 Test the Drive Speed - Stowed Position ..... 4 - 26

MidWestTech | Terex Genie S-80, S-85 Telescopic Boom Lift Service Manual | Publication... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

Section Four **Scheduled Maintenance Procedures**, continued

B-24 Test the Alarm Package - Optional Equipment ..... 4 - 27
B-25 Check the Hydraulic Limit Switch Linkage ..... 4 - 27
B-26 Perform Hydraulic Oil Analysis ..... 4 - 27
B-27 Replace the Engine Oil and Filter - Deutz Diesel Models ..... 4 - 28
C-1 Check the Boom Wear Pads ..... 4 - 29
C-2 Check the Extendable Axle Wear Pads ..... 4 - 29
C-3 Check the Turntable Rotation Bearing Bolts ..... 4 - 30
C-4 Check the Free-wheel Configuration ..... 4 - 30
C-5 Grease the Turntable Rotation Bearing and Rotate Gear ..... 4 - 32
C-6 Replace the Torque Hub Oil ..... 4 - 32
C-7 Replace the Hydraulic Tank Filter ..... 4 - 34
C-8 Replace the Drive Loop Hydraulic Filter ..... 4 - 34
C-9 Replace the Diesel Fuel Filter/Water Separator - Deutz Diesel Models ..... 4 - 35
C-10 Replace the Gasoline Fuel Filter - Gasoline/LPG Models ..... 4 - 36
C-11 Replace the PCV Valve - Gasoline/LPG Models ..... 4 - 37
C-12 Replace the Spark Plugs - Gasoline/LPG Models ..... 4 - 37
C-13 Check and Adjust the Air/LPG Mixture - Gasoline/LPG Models ..... 4 - 38
C-14 Check and Adjust the Ignition Timing - Gasoline/LPG Models ..... 4 - 39
C-15 Check the Engine Valve Clearances - Deutz Diesel Models ..... 4 - 39
C-16 Check the Turntable Rotation Gear Backlash ..... 4 - 39
D-1 Test or Replace the Hydraulic Oil ..... 4 - 40
D-2 Change or Recondition the Engine Coolant - Gasoline/LPG Models ..... 4 - 40
D-3 Change the Fuel Lines ..... 4 - 42
D-4 Check the Engine Valve Clearance - Gasoline/LPG Models ..... 4 - 43
D-5 Check the Engine Cylinder Compression - Gasoline/LPG Models ..... 4 - 43
D-6 Clean the PCV Hoses and Fittings - Gasoline/LPG Models ..... 4 - 44
D-7 Check the Fuel Injection Pumps and Injectors - Deutz Diesel Models ..... 4 - 44
D-8 Check the Toothed Belt - Deutz Diesel Models ..... 4 - 45
D-9 Replace the Timing Belt - Gasoline/LPG Models ..... 4 - 45
D-10 Grease the Steer Axle Wheel Bearings, 2WD Models ..... 4 - 45

MidWestTech | Terex Genie S-80, S-85 Telescopic Boom Lift Service Manual | Publication... Order the manual at mid-west-tech.com >

Hydraulic Specifications

Hydraulic fluid	Dexron equivalent
Drive pump	
Type: bi-directional variable displacement piston pump	
Displacement - 2500 rpm	0 to 30.3 gallons per minute 0 to 114.7 liters per minute
Maximum drive pressure	3500 psi 241.3 bar
Charge pressure neutral position drive position	 290 psi 250 psi
	 20 bar 17 bar
Medium pressure filter	3 micron
Medium pressure filter bypass pressure	50 psi 3.4 bar
Drive manifold	
Brake relief pressure	250 psi 17.2 bar
Steer end drive motors	**4WD models**
Displacement per revolution	1.52 cu in 25 cc
Non-steer end drive motors	
Displacement per revolution, variable 4WD (2 speed motor)	0.16 to 2.8 cu in 2.62 to 45.9 cc
Displacement per revolution, variable 2WD	1.12 to 2.8 cu in 18.4 to 45.9 cc
Function pump	
Type: pressure balanced gear	
Displacement - static	1.14 cu in 19 cc
Displacement - 2500 rpm	0 to 12.3 gallons per minute 0 to 46.6 liters per minute
Hydraulic tank circuit return line filter	10 micron with 25 psi (1.7 bar) bypass

Function manifold	
Function relief valve pressure	2900 psi 200 bar
Boom down relief valve pressure	2300 psi 158.6 bar
Boom extend	2500 psi 172 bar
Steer/axle extend flow regulator	5 gallons per minute 18.9 liters per minute
Steer regulator	3.5 gallons per minute 13.2 liters per minute
Auxiliary pump	
Type: fixed displacement gear pump	
Displacement - static	0.152 cu in 2.5 cc
Displacement	1.4 gallons per minute 5.3 liters per minute
Auxiliary pump relief pressure	2500 psi 172 bar

MidWestTech | Terex Genie S-80, S-85 Telescopic Boom Lift Service Manual | Publication... Order the manual at mid-west-tech.com >

TROUBLESHOOTING FLOW CHARTS

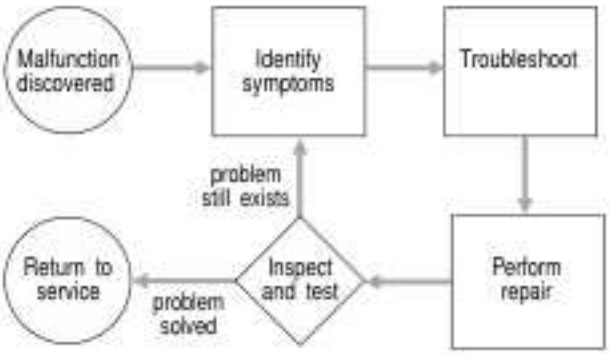
About This Section

When a malfunction is discovered, the flow charts in this section will help a service professional pinpoint the cause of the problem. To use this section, basic hand tools and certain pieces of test equipment are required—voltmeter, ohmmeter, pressure gauges.

The location of terminals mentioned in this section can be found on the appropriate electrical or hydraulic schematics provided in Section 6, *Schematics*.

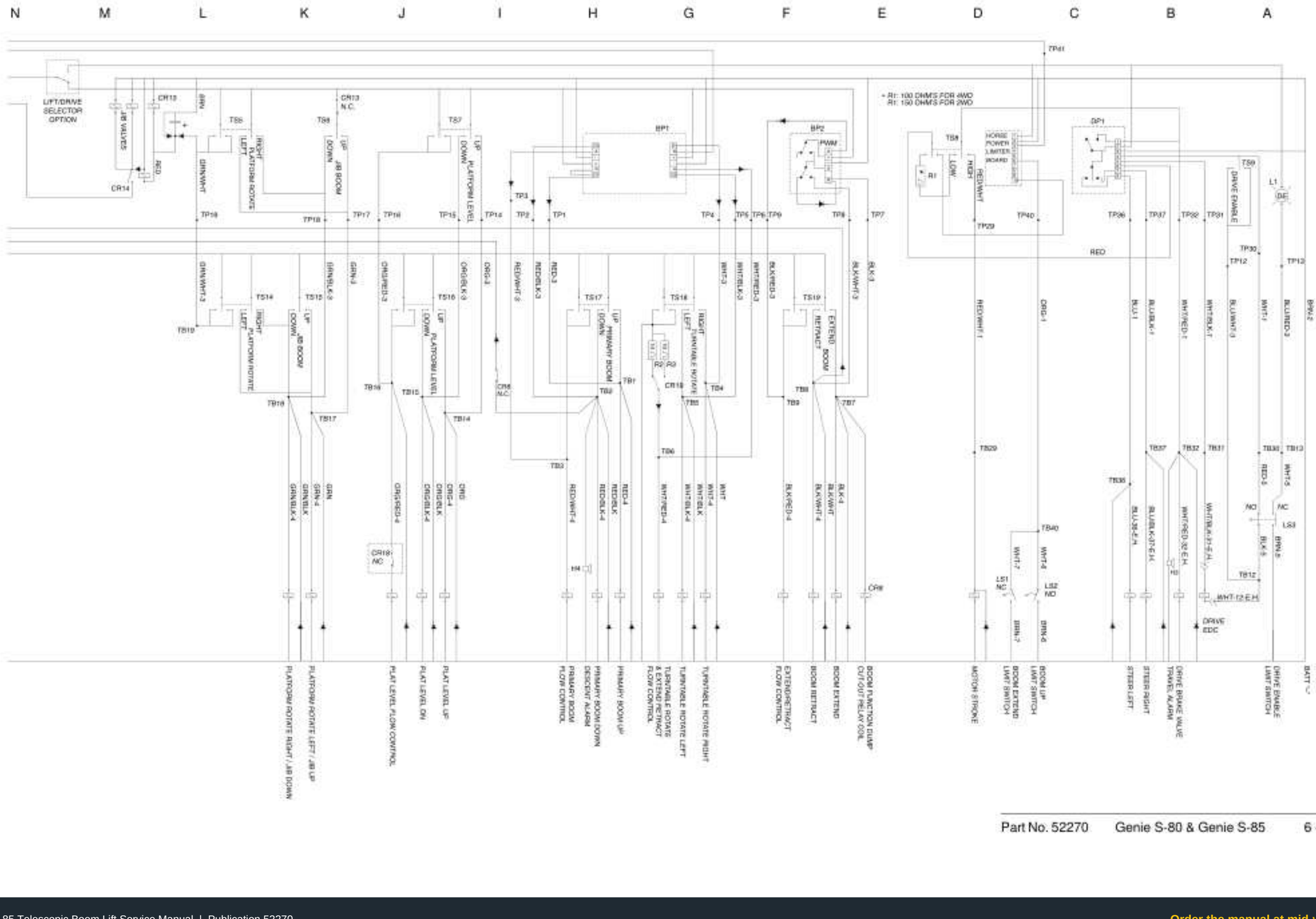
Since various degrees of a particular function loss may occur, selecting the appropriate flow chart may be troublesome. When a function will not operate with the same speed or power as a machine in good working condition, refer to the flow chart which most closely describes the problem.

General Repair Process



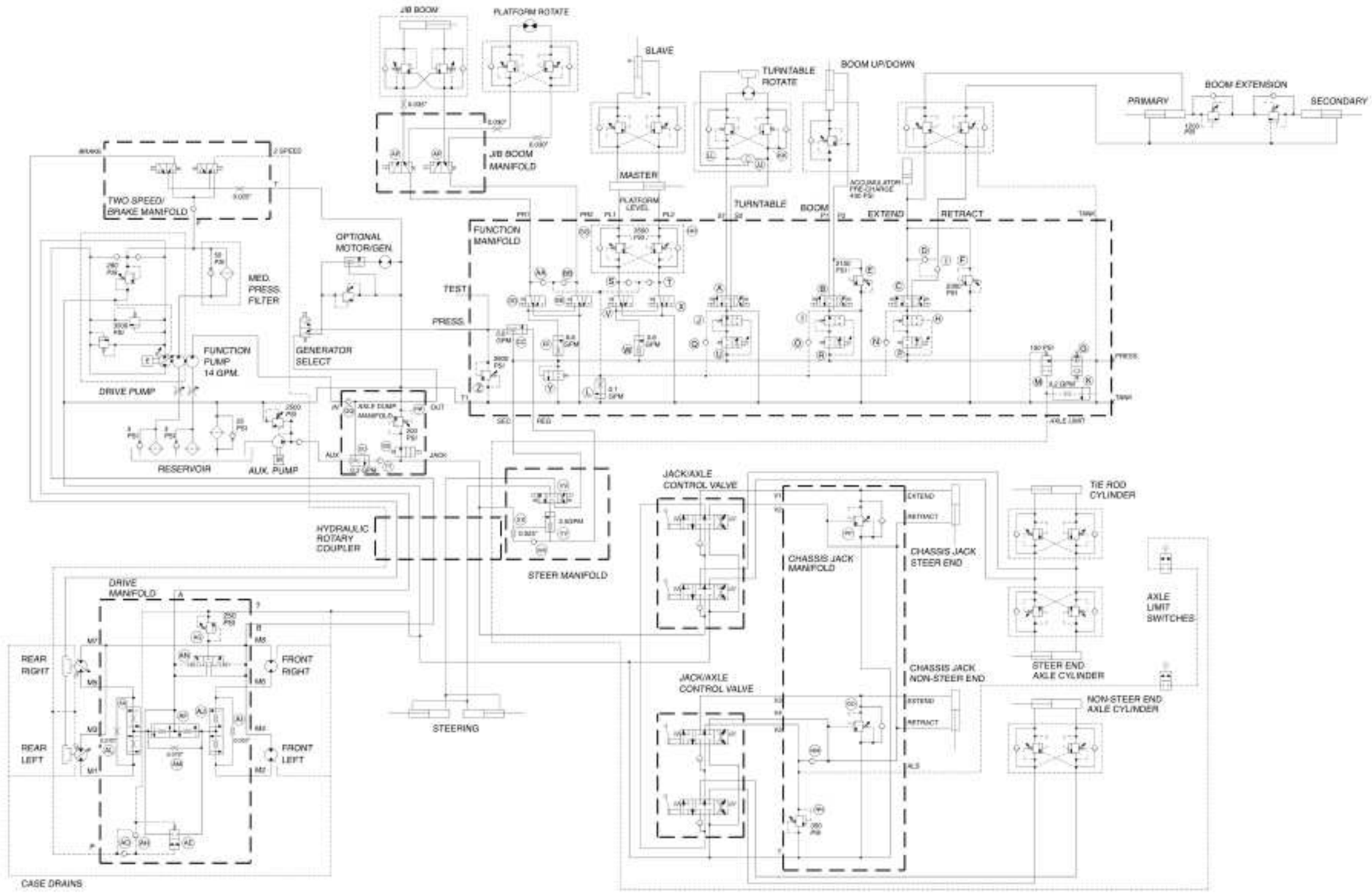
MidWestTech | Terex Genie S-80, S-85 Telescopic Boom Lift Service Manual | Publication... Order the manual at mid-west-tech.com >

Electrical Schematic- Diesel Models



MidWestTech | Terex Genie S-80, S-85 Telescopic Boom Lift Service Manual | Publication 52270 Order the manual at mid-west-tech.com >

4WD Hydraulic Schematic



MidWestTech | Terex Genie S-80, S-85 Telescopic Boom Lift Service Manual | Publication 52270 Order the manual at mid-west-tech.com >